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1 providing reactants [comprising] that include triethoxy fluorosilane,
2 a boron-containing precursor, a phosphorus-containing precursor and
3 ozone, wherein the insulating material deposited is a boron and
4 phosphorus-doped silicon oxide material having Si-F bonds, and[within
5 the reaction chamber; and

6 depositing a boron and phosphorus doped silicon oxide having Si-F
7 bonds, at a rate of from about 1000 angstroms per minute ($\text{\AA}/\text{min}$) to
8 about 10000 $\text{\AA}/\text{min}$, onto the substrate from the reactants,]the depositing
9 occurring without a plasma being present in the reaction chamber.

REMARKS

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12 In the Office Action mailed February 18, 2000, Claims 1, 3-8, 10,
13 11, 13-28 and 35-42 stand rejected under 35 U.S.C. §103(a), the principle
14 art in each of the several rejections being U.S. Patent No. 5,800,877 to
15 Maeda et al. Applicant disagrees. Claims 1, 18, 21, 23 and 25 are
16 amended. Claims 1, 3-8, 10, 11, 13-28 and 35-42 are submitted for
17 examination.

18 Maeda et al. is now the principle basis of all of the rejections in
19 the current Office Action. Maeda et al. allegedly discloses a range of
20 temperatures to a maximum of 400°C. However, in each of the
21 Figs. 3-8 and the text supporting the figures, only temperatures in the
22 range of 100 to 350°C are indicated. In addition, Fig. 3, of Maeda et
23 al., is a chart showing the deposition rate of silicon oxide steadily

1 decreasing as temperature is increased above 250°C to 350°C. The final
2 value of such rate, at 350°C, being about 80 nm/min (800 Å/min), which
3 is less than the lower limit of Applicant's claimed range of deposition
4 rates. Applicant respectfully contends that as Maeda et al. shows in
5 Fig. 3 that the deposition rate decreases with increasing temperature to
6 a rate below the lowest rate claimed by Applicant that it is *counter-*
7 *intuitive* for anyone with skill in the art to increase deposition
8 temperatures to between in excess of 400°C to about 700°C for the
9 purpose of increasing deposition rates. Thus Applicant's claimed
10 deposition rates at temperatures within the claimed range of temperatures
11 must be viewed as unexpected in view of Maeda et al. (See, M.P.E.P.
12 716.02(a)) and not, as previously stated by the Examiner as a basis of
13 obviousness.

14 Therefore Applicant respectfully requests that the Examiner, when
15 beginning the examination of the claims present herein, fully consider the
16 arguments previously made with respect to Maeda et al. Such arguments
17 include, at least, that, (1) Maeda et al. does not teach, disclose or even
18 suggest a temperature range that extends to 400°C. Rather, that the
19 disclosure of Figs. 3-8, with the supporting text, is that of a range of
20 100 to 350°C., and that such a range cannot make Applicant's claimed
21 temperature range obvious; and (2) Maeda et al. never disclose, teach
22 or even suggest the range of deposition rates recited in Applicant's
23 claims, among other things. Rather, Fig. 3 of Maeda, which shows the

1 deposition rate steadily decreasing from a peak of about 240 nm/min
2 (2500 A/min) at about 250°C, as the temperature is increased.

3 Nonetheless, and without such action being taken as an admission
4 by Applicant, each of Claims 1, 18 and 21 are now amended to recite,
5 among other things, a lowest claimed temperature that is in excess of
6 400 degrees C.

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9 Respectfully submitted,

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11 Dated: Apr. 17, 2000 By: Bernard Berman
12 Bernard Berman
13 Reg. No. 37,279
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